A changing landscape of road traffic liability in China

Introduction

1 Background

Road traffic accidents (RTAs) are "accidents that occur or originate on a way or street open to public traffic, resulting in one or more persons being killed or injured, and with at least one moving vehicle being involved" (OECD, 2017, p.1). RTAs are a major cause of misery, disability and death globally. According to the World Health Organization's (WHO) latest report, every year RTAs are responsible for over 1.2 million deaths and 20 to 50 million injuries worldwide (WHO, 2015a, p. ix). Furthermore, the costs of RTAs are enormous. RTAs cost countries approximately 3% of their gross national product.

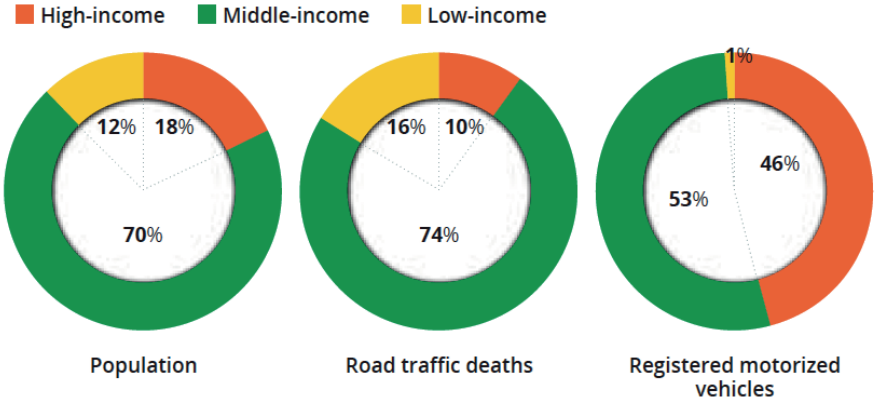
Since RTAs are so common and pose a serious threat to people's lives, investigating how to prevent RTAs and how to resolve RTA disputes is really important. Broadly speaking, RTA disputes refer to all conflicts or controversies that arise from RTAs. More specifically, RTA disputes can often be divided into three different types. The first type is concerned with *RTA disputes that can result in criminal charges*. For instance, if a defendant causes a serious accident (serious injuries, deaths, or property damage), or if the defendant is found guilty of hit-and-run or drunk/drug driving, (s)he will face criminal penalties, such as imprisonment. Another type of RTA disputes is often referred to as *RTA administrative disputes*. This kind of dispute often arises when an RTA is caused by a government entity or a government employee. This can be the case where a government-owned vehicle is involved and where the crash is caused by dangerous road conditions (i.e. roadside hazards, line-of-sight obstructions, construction zones that are not properly marked). The third type of RTA disputes are often referred to as *RTA civil or compensation disputes*. This kind of disputes arises if a RTA is caused by someone's (the tortfeasor) wrongful behaviour or negligence. Moreover, in this kind of dispute, the injured party (the victim) often files a compensation claim against the party who is liable to pay (normally the tortfeasor and the liability insurer).

The main focus of the discussions in this dissertation is on RTA civil disputes. Moreover, since RTA civil disputes often fall under the general umbrella of tort law, issues relating to tort, such as how to establish liability and how to determine the amount of compensation that should be paid out, are primarily discussed. Even though the primary focus of this dissertation is the traffic liability system, other legal systems are also relevant to RTA civil disputes. For instance, a compensatory system for RTA victims in one country normally consists of liability for tortfeasors in combination with private and/or publicly financed insurance. Therefore, in addition to the tort system, attention is also paid to private and social insurance schemes. Moreover, since most countries have established extensive regulations on traffic safety and since such regulation may affect the determination of liability, attention is also paid to traffic safety regulations. Therefore, in addition to the traffic liability system, insurance schemes (private and public) and traffic safety regulations are also dealt with in this dissertation.

Admittedly, there is already a vast amount of research on how to deal with RTA civil disputes under tort law and on how to combine liability, regulation, and insurance effectively or efficiently in RTA cases. However, these studies are especially popular in high-income

countries.[1] Thus far, relatively little research has been conducted in low- and middle- income countries, possibly due to language barriers or lack of sufficient data.[2] RTA related issues in low- and middle-income countries nevertheless deserve more attention, as those countries are relatively more dangerous for those who walk or drive a car. Statistics clearly show that RTAs occur more frequently in low-and middle-income countries, with ninety-percent of global road traffic deaths also occurring in those countries (WHO, 2015a, pp. 4-7). This number is disproportionate relative to their comparatively low level of motorisation (See figure 1).

Figure 1 Population, road traffic deaths and registered motorized vehicles, by country income status



Data source: WHO (2015a, p.2)

Moreover, in low- and middle-income countries, people often cannot afford to buy private insurance and have limited access to social insurance (WHO, 2000, pp. 93-116). As a result, they are very likely to bear a large fraction of "under-insured out-of-pocket costs"[3] when they are involved in RTAs. Even though there is no data to prove this fact, we do have related data on health expenditures.[4] Table 2 shows two kinds of health expenditure ratios by four

[1] For example, there is a large amount of articles that provide a discussion of the automobile accident prevention and compensation systems in the U.S. See among many other Grad (1950, pp. 300-330); McNiece and Thornton (1952, pp. 585-613); Brown (1978); Keeton and O'Connell (1965); Brown (1978, pp. 111-154); and Landes (1982, pp. 253-259). Another study, which is edited by Wolfgang Ernes, focuses on the development of traffic liability and the way in which regulatory law, private insurance, and state-run compensation schemes developed to deal with RTA prevention and compensation in selected European counties. See Ernst (2010, pp. 1-227). For the management of automobile accident compensation disputes in Japan, see Tanase (1990, pp. 651-692).

[2] In China, from 2003, the time when the Road Traffic Safety Law was enacted, issues, such as how to establish effective traffic liability and traffic victim compensation system, have been studied extensively by a vast number of studies. However, only a few of the studies analyzed the above-mentioned issues from the perspective of law and economics. See for example, Wei & Yu (2006, pp. 71-76), for a discussion of the efficiencies of the compulsory motor vehicle liability insurance scheme; Liu & Zhang (2004), for an analysis of the traffic liability system; and Li & Dong (2008, pp. 150-163), for an examination of the traffic accident victim compensation schemes in China.

[3] "Under-insured out-of-pocket costs" refer to the victim's expenditure caused by an accident, minus compensation from private and publicly funded insurance. This definition is given by Cooter and Schäfer. See Cooter and Schäfer (2012, p. 187)

[4] The data on health expenditure are relevant, because the "uninsured out-of-pocket costs" of personal injury include the health expenditure that victims pay from their own pockets.

different income groups in 2012. From this table, even though it is impossible to know the proportion of costs paid by the victim when a traffic accident happens, this table does provide some information on the fraction of the health costs that a sick person pays, rather than private and social insurance. As shown, people from low-, lower middle- and upper middle-income countries bear much higher level of out-of-pocket health costs (47.4%, 55.1%, and 32.5% respectively) than those from high-income countries (15.1%).[5]

Table 2 Health Expenditure Rations, by Income Group (2012)[6]

Income group	Private Expenditure on Health As % of Total Expenditure on Health	Out-of-pocket Expenditure as % of Prive Expenditure on Health
Low income	61.1	77.6
Lower middle income	63.6	86.7
Upper middle income	43.8	74.2
High income	39.3	38.5

Data Source: WHO's Report on World Health Statistics in 2015. See WHO (2015c, pp. 134-136).

Therefore, low- and middle-income countries, on the one hand, have a disproportionately high level of road traffic deaths. On the other hand, unlike high-income countries, where a protection or compensatory system for RTA victims is well-established, the protection of RTA victims in low- and middle-income countries is weak (WHO, 2000, pp. 93-116). Therefore, how to increase the RTA victim's access to insurance and public health care, and how to tackle and spread the losses caused by RTAs are of great theoretical and practical significance, especially in these low- and middle-income countries.

This dissertation focuses on one of the well-known middle-income countries, China. China, like other middle-income countries, has high numbers of road traffic accidents. The recent estimates (See Figure 3 and 4, next page)[7] show that approximately 261,367 people die each year (or 18.8 per 100,000 population) due to RTAs; and around 61 percent of the total estimated deaths are vulnerable road users such as pedestrians, cyclists, and motorcycle riders.[8] Moreover, a large proportion of RTA disputes closed by courts are related to

[5] In order to calculate the out of pocket expenditure as a percentage of total expenditure on health, I multiply "the private expenditure on heath as a percentage of total expenditure on heath" and "the out-of-pocket expenditure as a percentage of private expenditure on health". However, the higher ratio of out-of-pocket health expenditure in low-income countries may also due to the lower level of individual wealth in these countries. Since individuals have low wealth in these countries, the out of pocket health costs will amount to a higher percentage for them, especially when they have higher health costs.

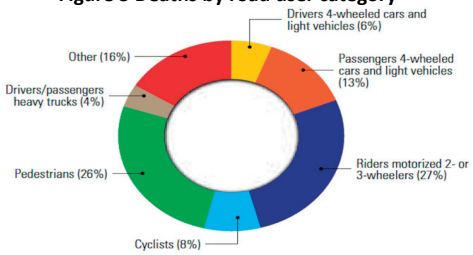
[6] Note that, Table 2 divides 214 countries in the world into four different income groups, based on the World Bank list of economies (July 2014), which is available at https://www.jspn.or.jp/uploads/uploads/files/english/world_bank_list_of_economies_july_2014.pdf.

[7] Figure 3 shows the distribution of deaths by road user categories in China; and Figure 4 exhibits the trends in reported road traffic deaths between 2004 and 2013. Both figures are published in the WHO's report on road safety. See WHO (2015a, p. 110).

[8] The data on road traffic deaths in the WHO's report is different from the data collected by the National Bureau of Statistics (NBS), the latter of which is available at http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm (in English). For example, WHO reported that the number of road traffic deaths in China was 62,954 in 2013, whereas the number reported by the NBS was 58,539. Moreover, the number of road traffic deaths reported by the NBS is far less (i.e. 50 percent less in 2011) than that derived from death certificates as computed by the Ministry of Health in China. The Ministry of Health publishes the data on traffic fatalities in the China Health Statistics Yearbook, which is available at http://gb.oversea.cnki.net/kns55/oldnavi/n_item.aspx?NaviID=4&BaseID=YZGWY&NaviLink=%E4%B8%AD%E5%9B%BD%E5%8D%AB%E7%94%9F%E5%B9%B4%E9%89%B4 (in Chinese). Some studies explain the reason why there is such a large difference when we compare the number of traffic fatalities in China derived from different sources. One reason might be that the WHO, the NBS, and the

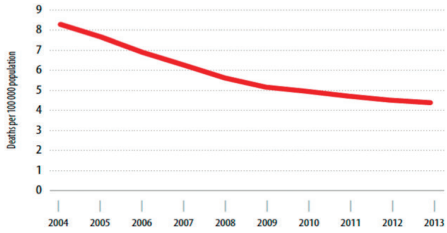
compensation issues (see Figure 5,[9] as shown in the blue portion) rather than criminal and administrative issues. Since the main focus of this dissertation is on RTA civil disputes, issues such as how liability is established and how RTA victims are compensated in China will be discussed.

Figure 3 Deaths by road user category



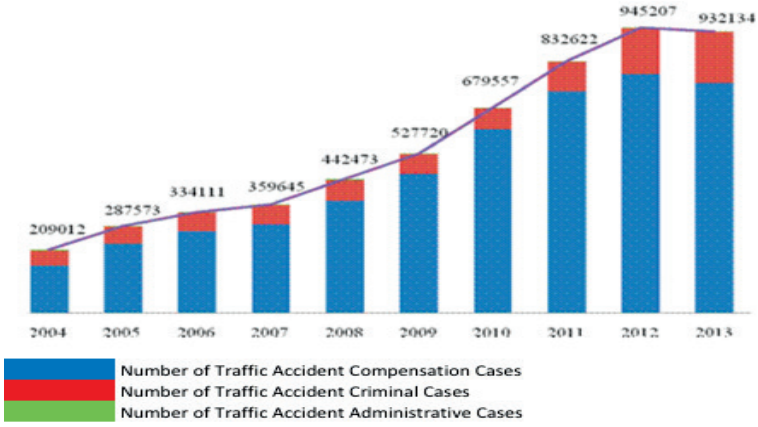
Source: 2013, Ministry of Public Security Annual statistics report on road traffic accident.

Figure 4 Trends in road traffic deaths



Source: Ministry of Public Security, Annual statistics report on road traffic accident, 2013.

Figure 5 Number of Road Traffic Accident Cases Closed by all levels of Chinese Courts (2004-2013)



Data Source: The data is collected by the Statistical Office of the Supreme People's Court of China, which is published in Liu (2014, p. 30).

Ideally, the rapid economic growth in China is supposed to bring a safer driving environment and a higher level of protection for RTA victims, because the government now is able to spend more on road safety and victim protection. However, reality shows that road safety laws and regulations in China are poorly enforced and fail to meet the best practice (WHO, 2015a, p. 38); victims of RTAs usually wait a long time to receive their compensation and the amounts

Ministry of Health use different definitions of what constitutes of a road traffic death. The difference may also be attributed to the fact that there is an under-reporting issue in police records. See Hu, Baker, and Baker (2011, pp.41-45); and Alcorn (2011, pp. 305-306).

[9] In terms of what type of RTA disputes can be classified as RTA criminal disputes, see article 133 of the Criminal Law in China, available at http://www.npc.gov.cn/englishnpc/Law/2007-12/13/content_1384075.htm (English version). See also the Interpretation of the SPC on Several Issues Concerning the Specific Application of Law in the Trial of Criminal Cases for Traffic Accidents *最高人民法院关于审理交通肇事刑事案件具体应用法律若干问题的解释*, available at https://hk.lexiscn.com/law/law-english-1-231289-T.html (English version). Articles 89 and 91 of the Tort Liability Law in China illustrate what types of RTA disputes belong to the RTA administrative disputes' category.

tend to fall short of their actual needs.[10] Nevertheless, intensive legislative interventions have been de facto taken by the Chinese government to deal with RTAs, especially since 2003. Interventions include, but are not limited to, implementing the Road Traffic Safety Law (in 2003) and the Tort Liability Law (in 2009), changing the basis of traffic liability, improving damage awards, and launching a national compulsory liability scheme for motorized vehicles (in 2006). However, the question is, why, after all these legal efforts, is road safety and road traffic accident victim protection in China still poor? Are these legal efforts heading in the right direction? If the answer is negative, what are the problems? And what should China really do to improve road safety and road traffic accident victim protection? All these questions are worth paying attention to. By doing so, China provides an interesting case study to enrich the study of global trends and norms in the RTA sector. Moreover, since China is one of the middle-income countries, this dissertation not only provides insights into China, but is also relevant for some regions of the world, even though the situation in China is peculiar.

2 Research Questions

In the light of the observations sketched above, the following research questions can be specified. Firstly, *what legal instruments exist in China concerning both the goals of prevention of road traffic accidents and victim compensation? How have these legal instruments changed over time and what are the reasons behind these changes?* (**Question 1**) Secondly, *how are the above-mentioned instruments enforced and are they actually implemented in practice as designed? If not, what are the problems and why do these problems arise?* (**Question 2**)

After identifying the current problems of traffic accident prevention and compensation systems in China, we need to take one step further and think about *how to achieve efficient and effective traffic accident prevention and victim compensation? Are there any optimal models for China and other low-and-middle-income countries to follow?* (**Question 3**) To find the optimal models for traffic accident prevention and compensation, the law and economics angle will be adopted. Law and economics or economic analysis of law, which has been developing since the 1960s, provides us with a nice theoretical framework for analyzing both the efficiency and effectiveness of different traffic accident prevention and compensation legal instruments. More importantly, the law and economics literature also provides concrete empirical evidence to back up the conceptual framework. According to economists,[11] RTAs incur external costs, which include (i) costs that are imposed on society in general and not born by any group of traffic users (system externalities); (ii) costs that one group of road users imposes on another in crashes involving both groups (physical externalities); (iii) and the marginal costs of adding one more road user to traffic (traffic volume externalities). Tort liability can be employed as an instrument to internalize the external costs associated with RTAs (see among many others Calabresi, 1970, pp. 1-340; Brown, 1973, pp. 323-326; Shavell, 1980, pp. 463-516; Grady, 1983, pp. 729-829; Dewees, Duff, and Trebilcock, 1996, pp. 1-437; Cooter and Ulen, 2012, pp. 1-532). Moreover, safety regulations, fines for harm done, criminal sanctions, tax incentives, liability insurance, and compensation schemes which are not based

[10] These problems are already reported by several Chinese courts. For example, Jiangning District Court (2007); Interim People's Court of Xiamen City (2013); and Huadu District Court of Guangzhou City (2014).

[11] The sum of the first two kinds of external costs constitutes the average external costs of traffic injury. See Lave (1987, pp. 29-37); Newbery (1988, pp. 295-316); Jones-Lee (1990, pp. 36-60); Elvik (1994, pp. 719-732).

on fault (i.e. first-party victim insurance and social security) can all act as alternative or complementary policy instruments to tort to internalize the externalities caused by RTAs (Shavell, 1987, pp. 277-278; Dewees et al., 1996, p. 43 and 54; Cooter and Ulen, 2012, p. 190). The fundamental idea is that tort law and other alternative/ complementary legal instruments should be designed in such a way that they can achieve the goals of accident avoidance and victim compensation at the lowest cost.[12] This idea is important, especially for China and for other low- and middle-income countries. The reasons are twofold and closely connected. Firstly, it is necessary for those countries to spend their limited budgets more wisely; secondly, those countries are in more urgent need of finding a balance between RTA victim protection and economic development, as compared to high-income countries.

Moreover, the law and economics analysis will also be employed to analyze the current status quo in China. As will be shown later (see section 3), the law and economics analysis could be very useful to address the following issues: whether the current combination of safety regulation and traffic liability system in China can provide accident parties with adequate prevention incentives; whether the compensation system in China can adequately compensate victims of road traffic accidents; and whether the traffic accident prevention and compensation systems in China are able to effectively reduce the total accident costs. Due to these reasons, a critical analysis will be conducted from the perspective of law and economics to discuss whether *the legal instruments for road traffic accident prevention and compensation in China make any sense from a law and economics perspective. If not, what are the problems?* (**Question 4**)

Lastly, a policy will be formulated to propose recommendations and address *to what extent the law and economics theory can be a source of inspiration to China and how we can improve the road traffic accident prevention and compensation systems in China according to economic benchmarks?* (**Question 5**)

The first two questions are addressed in Chapters 1 and 2. The third question is discussed in Chapters 3, 4 and 5. The fourth question is dealt with in Chapter 6, and the last question is answered in Chapter 7.

Moreover, these main research questions can be divided into a number of sub-questions. Question 1 first identifies what kinds of legal instruments there are to achieve the goal of traffic accident prevention and victim compensation (Question 1a). Question 1 then analyses the evolution of the road traffic liability system in China (Question 1b). To be more specific, Question 1b addresses issues concerning how the basis of road traffic liability has changed; how the victim's defence has evolved; and how the determination of road traffic liability has changed over time. Whether the scope and the amount of compensation awards have decreased or increased over time, as well as the changes and the impacts of private and public insurance schemes in road traffic accident cases are also addressed under Question 1b. After discussing how traffic liability rules are evolved, reasons behind the historical changes will be examined (Question 1c).

[12] This argument is first proposed by Calabresi (1970, pp. 24-34) and further developed and formalized by many other law and economics scholars. See among many others Posner (1972, pp. 29-96); Brown (1973, pp. 323-326); Shavell (1980b, pp. 463-516); Polinsky (1980, pp. 363-367); Landes and Posner (1987, pp. 1-29); Shavell (2004, pp. 175-288); Cooter and Ulen (2012, pp. 230-275).

Question 2 focuses on the current status quo in China and discusses the weaknesses and strengths of the current traffic accident prevention and compensation frameworks in China (Question 2a). Question 2 also concerns how these frameworks operate and are enforced in practice (Question 2b), as well as the problems behind the operation and enforcement (Question 2c).

Question 3 summarizes the economic theories relating to the liability for RTAs as well as alternative/complementary prevention and compensatory mechanisms. This main research question can be divided into the following sub-questions. Firstly, how can the traffic liability system be best organized as a mechanism for encouraging safety and deterring RTAs (Question 3a)? In addition, what role should tort liability play in compensating damages caused by RTAs (Question 3b)? Exactly how much deterrence does road traffic liability provide in practice (Question 3c)? Finally, in order to answer question 3, we should also pay attention to the tort system's alternatives, such as regulations, various insurance arrangements and no-fault compensation systems. In this case, the question whether these alternatives are able to achieve the goal of deterrence or victim compensation at lower cost than tort liability (Question 3d), should be discussed.

Question 4 is about critical analysis. Under this question, issues such as whether the current combination of road traffic liability and safety regulations are efficient or effective in achieving their designed aims (Question 4a) and whether the current compensatory system in China makes sense based on the existing economic benchmarks (Question 4b) will be analyzed. Moreover, Question 4 will also discuss empirical evidence regarding whether the compensatory system in China is effective in compensating victims of RTAs (Question 4c).

Question 5 should firstly address how the traffic liability system and the compensatory system for RTA victims in China should be shaped to promote both the goal of deterrence and compensation (Question 5a). Moreover, the following questions also need to be answered in Question 5. Firstly, are there any optimal models in theory (Question 5b)? Secondly, does the implementation of these models need a long time to plan (Question 5c)? Or could the implementation of these models be accomplished within a short period of time (Question 5d)? Lastly, it is also necessary to go one step further and think about in what directions future theoretical and empirical research in China should proceed regarding this dissertation's topic (Question 5e).

3 Research Methodology

Since this dissertation starts by describing how the Chinese traffic liability system has developed over time and what this system looks like now (Chapter 1 and 2), both historical and doctrinal approaches are used. A historical approach is used not only to "reproduce the law as it really was in order to reflect the historical reality that once existed" (Smits, 2012, p. 24). Also, such an approach enables us to draw lessons from the past, which could be useful to solve current problems and be applicable to improve the current law (*ibid*., pp.24-25). Last but most importantly, a thorough discussion of the historical development is absolutely necessary, because one cannot understand the current system without understanding where it came from. For example, explaining the historical evolution of the road traffic liability system can help to illustrate why traffic liability is divided into several sub-categories, why

rules on liability and compensation are regulated by the Supreme People's Court rather than by the legislators, and why victim compensation is capped at a low level. All these issues are difficult to understand without studying the historical evolution, especially for legal scholars outside of China.

A doctrinal approach is used to describe what is the applicable law (locating the sources of law) and what it actually says (interpreting and analyzing the text) (Hutchinson, 2013, pp. 7-33). In this method, the essential features of the existing legal documents and literature are "examined critically and then all the relevant elements are combined or synthesized to establish an arguably correct and complete statement of the law on the matter in hand" (*ibid*., pp.9-10).

In addition to the historical and doctrinal approaches, economic analysis is used in this thesis, both in the descriptive and normative sense (from Chapter 3 to 7). In the descriptive variant, economic analysis is used to explain the existing law in the light of economic principles and to identify the effects of a certain legal rule on individual behaviour (Posner, 2004, p. 4). One advantage of such an analysis is that it allows us to conduct an effectiveness test. For instance, we could investigate whether traffic accident laws are designed to pursue particular goal(s) and whether certain legal instruments are employed by the legislator to achieve these goals. In the normative variant, in contrast, economic analysis is used to offer guidance to policymakers on how to design efficient models of regulating conduct through law to maximize social welfare (*ibid*., pp. 4-5). More specifically, the economic analysis part of this research begins with a focus on the following questions, such as when does the law need to intervene to internalize externalities (Coase, 1960, pp. 1-44); in which circumstances should intervention occur through liability rules (Calabresi & Melamed, 1972, pp. 1089-1128); what are the optimal structure and incentive effects of liability (i.e. Landes & Posner, 1987; Shavell, 1980, pp. 463-516); and what are the effects of different liability rules on the occurrence of the accidents (Shavell, 1987)? The answers to these questions are further interpreted in the context of traffic accidents. Moreover, this research adopts the basic neoclassical economic model for accidents in its analysis. Especially the well-known Calabresi framework, which was developed in his remarkable book "The Costs of Accidents", is employed to design liability rules for traffic accidents and to compare the potential of different compensation mechanisms to minimize the social costs of accidents (Calabresi, 1970).

Note that, however, the neo-classical economic model for accidents has certain limitations. For example, it tends to ignore the impacts of imperfect information (i.e. injurer's imperfect information and imperfect control of care-taking), the influence of institutional context (i.e. insurance and market structure), and the effects of the litigation process (i.e. the damage rules, settlement, and the role of decision-makers) on the behaviour of accident parties. Being aware of these limitations, other schools of economic thought,[13] particularly the empirical law and economics, are also examined within this research (Chapter 4). A discussion of the literature on empirical law and economics is necessary. On the one hand, this strand of literature provides evidence on the theoretical hypotheses that are proposed by the neo-

[13] Experimental and behavioural economics, which focus on the bounded rationality in individual decision-making, are not examined here, mainly because the normative value of this school of thought for accident law is very limited. A summary of literature on the behavioural literature for the economic analysis of accident law and its implications is provided by Faure (2010, pp. 11-68).

classical model of accident law. On the other hand, the discussion of the literature could provide the reader with a better understanding of the real causes of traffic accidents, the actual operation of the traffic liability system, and the possible effects of changes in traffic liability on the underlying behaviour. Moreover, to the extent possible, this research also provides a discussion on the deterrent effects of traffic liability rules and safety regulation (Chapter 4). However, a full evaluation is not possible due to the limited data and the impact of insurance.

Admittedly, relying solely on the economic analysis to address the normative question of "what the optimal preventive and compensation models ought to be" is very dangerous.[14] In order to answer the normative question, this research incorporates some comparative work in the economic analysis part (Chapters 4 and 5). This has been done primarily by adopting the so-called functional method (Siems, 2014, pp. 25-28). Here, the main focus is on the way that different legal systems deal with the compensation of traffic victims, and then these different approaches are compared in terms of their economic efficiency. As a result, the US and some European jurisdictions are chosen, with the primary attention being focused on the US. This cherry-picking approach can be justified firstly because most of the law and economics literature as well as the empirical studies are US-oriented. Secondly, this approach can also be justified in the sense that both the US and China heavily depend on the tort system to compensate traffic victims, whereas in most European countries the tort system is rather a "luxury" and is of limited importance concerning compensation for traffic victims. Even though the traffic liability systems in the European countries and in China are currently not comparable, they might become comparable in the near future. This is because the governments in some European countries start to reduce social security payments in recent years. As a result, the victim's demand to use tort law to obtain compensation may increase in the near future. Given this fact, we see a need to discuss the traffic liability system and the traffic accident compensation system of the European countries in future research.

Moreover, to better understand the application of these different approaches and the divergences between theory and practice, the comparison is further complemented with some empirics. Precisely speaking, the empirical analysis part of this research mainly adopts the qualitative approach rather than the quantitative approach.[15] It means that the empirical evidence is collected mainly by case studies and the existing empirical literature (most of which is US-oriented). Moreover, as a complement to these qualitative methods, a limited number of interviews will be conducted. Five Chinese legal scholars are involved in the interview. Two of them are judges from local courts; one used to be the judge of the Supreme People's Court; and the remaining two are from academia whose research interests are related to this dissertation's topic. During the interviews, the interviewees are required to answer a list of questions that were sent to them in advance. The list of the interview questions is attached in Appendix Four of this dissertation. The purpose of these interviews is to get the information that is unclear in the literature. These interviews are thus mainly used to provide some insights on the practice of the traffic liability system and the CVLI in

[14] Many scholars argued that economic analysis might be useful in addressing some legal questions (i.e. the costs and benefits of implementing a certain rule), but seems to be an inadequate tool in answering some normative questions. A summary of opposing views can be found in Smits (2012, pp. 62-77).

[15] The differences between qualitative and quantitative empirical research methods are discussed in Smits (2012, pp. 31-32).

China, where the empirical evidence on these issues is very limited. The results of these interviews will be discussed in Chapter 6.

4 Structure and Brief Overview

Chapters 1 and 2 describe the evolution of road traffic liability in China, thereby identifying the current status quo and the problems it causes. Chapters 3, 4, and 5 provide economic benchmarks to evaluate the Chinese systems for road traffic prevention and compensation. Chapter 6 assesses the current Chinese systems for road traffic prevention and compensation from the perspective of law and economics. Chapter 7 illustrates several concluding remarks and tries to propose some policy recommendations.

Chapter 1 describes the development of the road traffic liability system in China between 1949 and 1986. Section 1 first introduces the legal framework for dealing with RTAs. Then the issue of how road traffic liability rules have changed over time is examined in section 2. Section 3 further investigates the changes to the scope of recoverable damages and the amount of compensation that RTA victims may receive. Since most of the RTA compensation disputes were resolved out of the court on the basis of informal rules during this period, the methods used to settle these disputes are summarized in section 4. Section 5 examines the impact of insurance on the road traffic liability system and section 6 concludes.

Chapter 2 gives an overview of the development of the road traffic liability system since 1987. During this period, the road traffic liability system began to show more tort law features and the compensation awarded to the traffic accident victim was largely increased. To better understand the evolution of the road traffic liability framework, this Chapter focuses on the following four issues: the legal framework for dealing with RTAs (section 1); the changes to the basis of road traffic liability (section 2); the changes to the scope of recoverable damages and the amount of compensation that RTA victims may receive (section 3); the current road traffic liability system and its interaction with road safety regulation (section 4). In addition, this Chapter analyzes the development of private and social insurance schemes and the extent to which victims of RTAs are protected under those insurance schemes (section 5). Some empirical evidence regarding the operation of these insurance schemes will also be presented (section 5). Section 6 concludes.

Chapter 3 provides a theoretical framework for testing road traffic liability in China. It begins by briefly describing the essence of tort law in terms of its economic function (section 1). It then examines the theoretical models of road traffic liability in detail (section 2). Chapter 3 also investigates the question of which liability rules (fault-based liability or strict liability) are most suitable to accomplish the deterrence goal (section 2). The answer to this question may depend upon various factors, such as the availability of perfect information, the capacity of courts to process information in an unbiased way, the availability of insurance and other risk transfer methods, and the litigation costs. Discussions in Chapter 3 will also take into account these factors and analyze the possible impacts of imperfect information (section 3), regulation (section 4), insolvency (section 5), litigation costs (section 6) and insurance (section 7). Furthermore, Chapter 3 briefly analyzes the role of road traffic liability in Calabresi's secondary accident cost reduction and the related empirical findings (section 8). This chapter

concludes with a claim that the road traffic liability system plays an important but limited role in deterring accidents and compensating victims (section 9).

Some of the theoretical theories sketched above are backed up by empirical evidence. Chapter 4 deals with the empirical evidence on how much deterrence the road traffic liability system provides. This chapter first assesses the deterrent effect of the road traffic liability system by testing whether the occurrence of a road traffic accident changes the operational pattern of the tort litigation system in practice (section 1). Moreover, the question of whether the practical changes eventually lead to traffic injury reduction are also investigated in this section. After that, this Chapter discusses the safety effects of the road traffic liability system (section 3). Some empirical evidence concerning the cost and benefit of the road traffic liability system will be provided in section 4. Section 5 summarizes the implications of the empirical evidence covered in this chapter.

Chapter 5 deals with the alternative systems to tort and addresses whether these alternatives are more desirable than tort in deterring accidents and compensating victims. As will be shown, tort liability may not be "a necessary factor in achieving deterrence" (Schwartz, 1994, pp. 381-387). The goal of deterrence can also be achieved by other mechanisms. In the RTA sector, public regulations, administrative fines, or criminal penalties can also influence drivers' behavior and discourage them from risky driving. Moreover, the deterrent effect of a given preventive instrument is closely connected with the expected to the expected sanctions. The preventive instruments that used in the RTA sector as well as how to best enforce these instruments with the help of a variety of sanctions, will be investigated in sections 1 and 2 respectively. Furthermore, even though traditional lawyers still view victim compensation as the main task of the road traffic liability system, it has been an important achievement of the economic analysis to show that the road traffic liability system is very costly and ill- equipped to accomplish the goal of victim compensation (see among many other Calabresi, 1965, pp. 499-553; Kakalik & Pace, 1986, pp. 1-192; Dewees et al., 1996; Polinsky & Shavell, 2010, pp. 1437-1492; Tillinghast-Tower Perrin, 2011, pp. 1-29). Many alternatives, such as various (compulsory) insurance arrangements (a distinction is made between first-party victim insurance and third-party liability insurance) and compensation systems that not based on fault (i.e. no-fault and social security schemes) have been argued to have the capacity to achieve the goal of victim compensation at a lower cost. The rationale of these alternative instruments will be investigated in section 4. Section 5 concludes.

The question of whether the road traffic liability system in China is desirable from an economic point of view is discussed in Chapter 6. Since the law and economics theories are often based on the US experience, it is necessary to justify their application in China first. This chapter then reviews whether the joint use of road traffic liability and traffic safety regulation in China can be justified from the perspective of law and economics (section 1). In addition, this Chapter explains the economic rationale for the current compensatory system for RTA victims in China (section 2). The problems of the Chinese traffic accident prevention and compensation systems are also identified in both section 1 and 2. Section 3 summarizes the available empirical studies and attempts to analyze the ability of the road traffic liability system in providing adequate compensation in China. Section 4 contains some concluding remarks.

Chapter 7 suggests the core features that a Chinese regime for road traffic liability could be built upon and how these features could be integrated into the existing ones. The first section will provide brief answers to the main research questions that are proposed at the beginning of this dissertation (section 1). This section also provides policy recommendations on how to improve the current road traffic accident prevention and compensation systems in China. Academic contributions and limitations, as well as possibilities for future research are discussed in the next two sections (sections 2 and 3). Section 4 concludes by briefly illustrating the possible ways forward for China to improve of road traffic safety and traffic accident victim compensation conditions in the future.